

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: METALUX

Report Number: P294474

Luminaire Tested: **BMK-30-WFL-UNV-L840-CD-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P294474  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-3)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-30-WFL-UNV-L840-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH WIDE FROSTED LENS  
Light Source: (528) 80 CRI 4000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 30099.0 lumens  
Efficiency: N/A  
Efficacy: 149.7 lumens/watt  
Spacing Criteria (0/90/45): 1.7 / 1.7 / 1.72  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

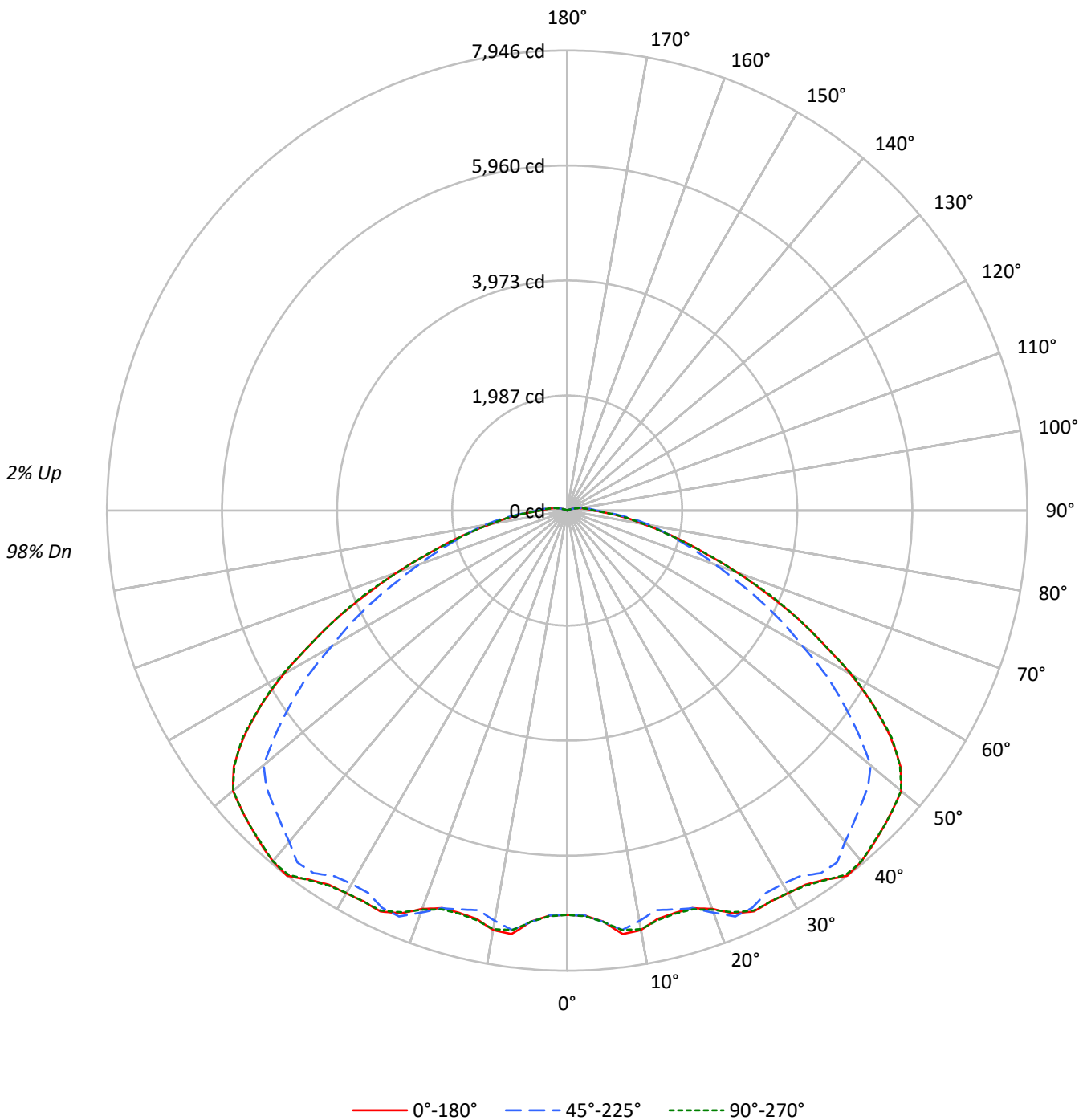
Input Watts (W): 201.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P294474

CATALOG NUMBER: BMK-30-WFL-UNV-L840-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P294474

CATALOG NUMBER: BMK-30-WFL-UNV-L840-CD-U

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	107	102	97	93	104	100	95	92	95	91	88	91	88	85	87	84	82	80
2	97	88	81	75	94	86	79	74	82	76	72	78	74	70	75	71	68	65
3	88	77	68	61	85	75	67	60	71	65	59	68	62	58	65	61	56	54
4	80	67	58	51	77	66	57	50	63	55	49	60	54	48	58	52	47	45
5	73	59	50	43	71	58	49	43	56	48	42	53	47	41	51	45	41	38
6	67	53	44	37	65	52	43	37	50	42	36	48	41	36	46	40	35	33
7	62	48	38	32	60	47	38	32	45	37	31	43	36	31	42	35	31	29
8	57	43	34	28	56	42	34	28	41	33	28	39	32	27	38	32	27	25
9	53	39	31	25	52	39	30	25	37	30	25	36	29	24	35	29	24	22
10	50	36	28	22	48	35	28	22	34	27	22	33	27	22	32	26	22	20

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	53824	53824	53824
5°	54551	54589	54583
10°	56384	55162	56250
15°	55619	55144	55728
20°	57555	58096	57666
25°	61525	60963	61404
30°	63533	61971	63463
35°	67557	66353	67621
40°	72328	68297	72312
45°	75258	69941	75267
50°	79073	71809	79030
55°	78266	66929	78572
60°	72318	60201	72721
65°	63577	53454	63516
70°	53091	46149	52740
75°	43442	41220	42537
80°	35342	38109	35781
85°	30882	33583	31350



TEST NUMBER: P294474

CATALOG NUMBER: BMK-30-WFL-UNV-L840-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	688.4	2.3
10°-20°	2037.5	6.8
20°-30°	3465.8	11.5
30°-40°	4826.8	16.0
40°-50°	5775.7	19.2
50°-60°	5616.5	18.7
60°-70°	3984.5	13.2
70°-80°	2169.8	7.2
80°-90°	951.0	3.2
90°-100°	395.2	1.3
100°-110°	162.2	0.5
110°-120°	25.0	0.1
120°-130°	0.6	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	6191.7	20.6
0°-40°	11018.5	36.6
0°-60°	22410.7	74.5
0°-90°	29516.1	98.1
90°-120°	582.3	1.9
90°-150°	582.9	1.9
90°-180°	583.0	1.9
0°-180°	30099.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6982	6982	6982	6982	6982	
5°	7123	7111	7128	7114	7127	692
15°	7192	7100	7130	7087	7206	2051
25°	7636	7438	7566	7446	7621	3503
35°	7778	7784	7640	7759	7786	4897
45°	7727	7476	7181	7485	7728	5978
55°	6816	6305	5829	6317	6842	6027
65°	4378	3998	3680	4002	4373	4321
75°	2108	1975	2000	1981	2064	2260
85°	826	824	898	830	838	780
90°	460	496	507	495	466	264
95°	337	354	379	358	341	256
105°	147	148	146	149	148	160
115°	13	18	22	17	14	23
125°	0	0	0	0	0	1
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P294474

CATALOG NUMBER: BMK-30-WFL-UNV-L840-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6981.9	6981.9	6981.9	6981.9	6981.9
2.5°	6999.3	6995.1	7000.1	7001.8	7009.2
5°	7122.9	7111.3	7127.9	7113.8	7127.1
7.5°	7376.0	7317.9	7303.8	7299.6	7306.3
10°	7354.4	7312.9	7195.1	7311.3	7337.0
12.5°	7220.8	7177.7	7067.3	7173.5	7244.9
15°	7191.8	7100.5	7130.4	7087.2	7205.9
17.5°	7195.9	7114.6	7197.6	7108.0	7218.3
20°	7320.4	7268.1	7389.2	7262.3	7334.5
22.5°	7527.8	7436.5	7585.9	7408.3	7507.9
25°	7635.7	7438.2	7566.0	7445.7	7620.7
27.5°	7607.5	7476.4	7440.7	7475.5	7611.6
30°	7629.0	7555.2	7441.5	7542.7	7620.7
32.5°	7657.2	7613.3	7484.7	7608.3	7673.8
35°	7778.4	7784.2	7639.8	7759.3	7785.8
37.5°	7946.0	7762.6	7655.6	7750.2	7919.4
40°	7907.0	7660.6	7466.4	7659.7	7905.3
42.5°	7820.7	7593.3	7317.1	7596.7	7806.6
45°	7726.9	7475.5	7181.0	7484.7	7727.8
47.5°	7631.5	7430.7	7047.4	7421.6	7631.5
50°	7531.1	7172.7	6839.2	7174.4	7527.0
52.5°	7258.2	6796.0	6343.0	6796.0	7244.9
55°	6815.9	6304.8	5828.6	6317.3	6842.5
57.5°	6276.6	5826.1	5308.4	5820.3	6283.3
60°	5660.2	5196.4	4711.8	5229.6	5691.7
62.5°	4990.6	4660.4	4201.6	4631.3	4986.5
65°	4377.5	3997.5	3680.5	4001.6	4373.3
67.5°	3715.4	3415.0	3154.5	3410.0	3775.1
70°	3127.9	2877.4	2718.9	2877.4	3107.2
72.5°	2546.3	2419.4	2339.7	2414.4	2574.5
75°	2108.2	1974.7	2000.4	1981.3	2064.3
77.5°	1683.4	1617.1	1712.5	1617.9	1672.7
80°	1335.0	1320.9	1439.5	1316.7	1351.6
82.5°	1070.3	1054.5	1166.5	1049.6	1081.9
85°	825.5	823.9	897.7	830.5	838.0
87.5°	609.8	631.4	665.4	634.7	610.7
90°	460.5	496.2	506.9	495.3	466.3
92.5°	394.1	418.2	433.9	417.3	400.7
95°	336.9	354.3	379.2	358.4	341.0
97.5°	285.4	302.0	319.4	302.0	287.9
100°	237.3	248.9	265.5	250.6	239.8
102.5°	195.8	198.3	206.6	201.6	195.0
105°	146.9	148.5	146.0	149.3	147.7
107.5°	106.2	104.5	97.9	107.0	105.4
110°	66.4	66.4	64.7	67.2	66.4



TEST NUMBER: P294474

CATALOG NUMBER: BMK-30-WFL-UNV-L840-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	34.8	37.3	40.7	37.3	36.5
115°	13.3	18.3	21.6	17.4	14.1
117.5°	5.8	8.3	9.1	8.3	5.8
120°	5.0	5.8	5.0	5.0	5.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)